



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,360	10/30/2001	Bernd Scheffler	TI-31106	9130

23494 7590 11/06/2006

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

RAMAKRISHNAIAH, MELUR

ART UNIT PAPER NUMBER

2614

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,360

Applicant(s)

SCHEFFLER, BERND

Examiner

Melur Ramakrishnaiah

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5- 24, 26-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-24 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 26, 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley, III, et al. (US PAT: 5,107,225, hereinafter Wheatley) in view of Lane (US PAT: 6,868,128, filed 7-5-2000).

Regarding claim 1, Wheatley discloses an automatic gain control apparatus, comprising: a first input for receiving from a communication receiver information indicative of signal strength of a received communication signal as shown at 22 (fig. 1), and hardware (22, fig. 1) coupled to the first input and responsive to signal strength information for determining gain control setting for communication receiver without incurring program execution delay of a data processor (fig. 1, col. 3 lines 1-63).

Regarding claim 26, Wheatley discloses an automatic gain control method, comprising: providing information indicative of signal strength of a communication signal received by a communication receiver, and responsive to the signal strength information, determining an automatic gain control setting for the communication receiver without incurring program execution delay of a data processor (fig. 1, col. 3 lines 1-63).

Wheatley differs from claims 1 and 26 in that he does not specifically teach the following: the communication receiver comprising dual channels, each having a channel

filter with gain adjustable by the hardware, and adjusting the gain settings of the dual channels of the communication receiver.

However, Lane discloses the following: the communication receiver comprising dual channels, each having a channel filter (20/22, figs 1-2) with gain adjustable by the hardware (24/26, figs. 1-2), and adjusting the gain settings of the dual channels of the communication receiver (col. 5, line 23 – col. 6, line 56).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Wheatley's system to provide for the following: the communication receiver comprising dual channels, each having a channel filter with gain adjustable by hardware hardware, and adjusting the gain settings of the dual channels of the communication receiver as this arrangement would provide another well known scheme for processing the wireless signals as taught by Lane

Regarding claims 3, 28, Wheatley further teaches the following: signal strength information includes an RSSI signal derived from an amplifier portion of the communication receiver (col. 3 lines 30-35), determining step also in response to information indicative of a predetermined power level value (col. 2 lines 5-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2614

4. Claims 5-7, 27, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Lane as applied to claim s 1 and 26 above, and further in view of Suganuma et al. (US PAT: 5,507,023, hereinafter Suganuma).

Regarding claims 5-7, 27, 29, the combination does not teach the following:
second input for receiving information indicative of desired bias level of an amplifier of communication receiver, the hardware coupled to the second input and also responsive to the bias level information for determining the automatic gain control setting without incurring program execution delay of a data processor, hardware includes difference circuitry responsive to the bias level information and the signal strength information for determining therefrom a deviation value indicative of a difference between the bias level and the signal strength, hardware includes range checking circuitry coupled to the difference circuitry for determining whether deviation value is within a predetermined range, determining step in response to information indicative of: a desired bias level of an amplifier of the communication receiver, a gain value selected for an LNA of the communication receiver.

However, Suganuma discloses receiver with an agc circuit capable of expanding a dynamic range which teaches the following: second input at (21, fig. 4) for receiving information indicative of desired bias level of an amplifier of communication receiver, the hardware coupled to the second input and also responsive to the bias level information for determining the automatic gain control setting without incurring program execution delay of a data processor, hardware includes difference circuitry (21, fig. 1) responsive to the bias level information and the signal strength information for determining

Art Unit: 2614

therefrom a deviation value indicative of a difference between the bias level and the signal strength, hardware includes range checking circuitry (constituted by 23 and 22, fig. 4) coupled to the difference circuitry for determining whether deviation value is within a predetermined range, determining step in response to information indicative of: a desired bias level of an amplifier of the communication receiver, a gain value selected for an LNA of the communication receiver (col. 1, line 58 – col. 2, line 14; fig. 4 col. 3, line 45 – col. 4, line 44).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following: second input for receiving information indicative of desired bias level of an amplifier of communication receiver, the hardware coupled to the second input and also responsive to the bias level information for determining the automatic gain control setting without incurring program execution delay of a data processor, hardware includes difference circuitry responsive to the bias level information and the signal strength information for determining therefrom a deviation value indicative of a difference between the bias level and the signal strength, hardware includes range checking circuitry coupled to the difference circuitry for determining whether deviation value is within a predetermined range, determining step in response to information indicative of: a desired bias level of an amplifier of the communication receiver, a gain value selected for an LNA of the communication receiver as this arrangement would facilitate dynamic range of AGC amplifier, thereby producing output signal free from distortion as taught by Suganuma (col. 5 lines 53-67).

5. Claims 2 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheatley in view of Lane as applied to claim 1 above, and further in view of Spiegel (US 2002/0150174A1, Provisional application No. 60/257,289, filed on Dec 26, 2000).

The combination differs from claims 2 and 30 in that it does not specifically teach communication receiver is a TDMA RF receiver, implementing automatic gain control method in a TDMA system.

However, Spiegel discloses communication receiver capable of processing TDMA RF signals, implementing automatic gain control method in a TDMA system (fig. 1; paragraph: 0015).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for the following:
communication receiver is a TDMA RF receiver, and implementing automatic gain control method in a TDMA system as this arrangement would facilitate processing TDMA RF signals as taught by Spiegel, thus making the receiver versatile.

6. Claims 8-13, 14-16, 17-18, 19-22 are allowed.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2614

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Melur Ramakrishnaiah
Primary Examiner
Art Unit 2614